Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1-17. (cancelled).

18. (currently amended) A method for manufacturing a piezoelectric thin film component comprising:

a) depositing a thin ~~titanium~~ film consisting of titanium on a bottom metal layer such that parts of the thin ~~titanium~~ film are deposited ~~remain separately~~ on crystal grain boundaries of the bottom metal layer ~~and~~ to form seed crystals; and

b) forming a polycrystalline piezoelectric thin film on the bottom metal layer so that a pervoskite crystalline lattice is grown from the seed crystals.

19. (cancelled).

20. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 18, wherein the piezoelectric thin film has a (001) or (100) plane orientation and a crystal grain size of 0.1 μm to 0.5 μm.

21. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 18, wherein said step of forming the polycrystalline piezoelectric thin film comprises the steps of:

b.1) forming a film of a sol composition on the seed crystals, wherein the sol composition includes a high molecular organic compound mixed therein;

b.2) heating the film of the sol composition at a temperature between 300°C and 500°C to gelatinize the film and to remove the organic compound from the film thereby forming a porous gel thin film comprised of amorphous metal oxides;

b.3) baking the porous gel thin film at a temperature between 500°C and 800°C in a pre annealing process until the gel thin film is uniformly crystallized and transformed into a crystalline metal oxide film;

b.4) repeating steps b.1, b.2, and b.3 to laminate consecutive layers of a substantially integrated crystalline thin film; and

b.5) performing a final annealing of the substantially integrated film formed in step b.4 such that pervoskite crystal growth occurs and a polycrystalline piezoelectric thin film is formed on the bottom metal layer.

22. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 21, wherein the sol composition is defined according to the piezoelectric thin film to be generated such that a composition of metal components comprising the piezoelectric thin film is substantially maintained throughout the formation of the piezoelectric thin film.

23. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 22, wherein the sol composition is comprised of a sol solution that includes metal alkoxide or metal acetate dispersed in a main solvent of 2-n-butoxyethanol.

24. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 23, wherein a hydrolysis inhibitor is added to the sol solution.

25. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 24, wherein the hydrolysis inhibitor is selected from a group consisting of: monoethanolamine, diethanolamine, triethanolamine, acetylacetone and acetic acid.

26. (previously presented) The method for manufacturing the piezoelectric thin film component in accordance with claim 21, wherein the high molecular organic compound mixed into the sol composition is selected from a group consisting of: polyvinyl acetate, hydroxypropyl cellulose, polyethylene glycol, polyethylene glycol monmethyl ether, polypropylene glycol, polyvinyl alcohol, polyacrylic acid, polyamide, polyamic acid, and acetylcellulose.

27. (withdrawn) The method for manufacturing the piezoelectric thin film component in accordance with claim 18, wherein the seed crystals are deposited by sputtering in a thickness of 40 to 60 angstrom.